Linear LED driver allows for simplification of auto interiors, signage, lighting circuits

Needing only two additional components, the AL5801 linear LED driver enables designers to simplify automotive interior, signage, and general lighting control circuits. Integrating a 100V rated N-channel MOSFET with a pre-biased NPN transistor, this small footprint SOT26 packaged device will drive chains of up to 30 low-power, series-connected LEDs with currents from 20mA to 350mA.

The AL5801's open-drain output operates between 1.1V and 100V, ensuring common 12V, 24V and 48V power rails are supported, while the LED current is set using an external low value resistor. By generating a 0.56V reference voltage across the resistor, the driver's internal control transistor helps minimize power losses and ensures sufficient supply voltage margin.

Due to the reference voltage's negative temperature coefficient, the output current is automatically reduced at higher temperatures, helping to protect the LED chain from any damage, thus improving overall circuit reliability. In addition, the AL5801's wide operating temperature range of -40°C to +150°C means it can be mounted immediately adjacent to LEDs where PCB space is limited.

For applications requiring simple LED dimming, the driver supports PWM output-current regulation, achieved by driving its bias pin with a PWM signal via an external open-collector NPN transistor or open-drain N-channel MOSFET.

The AL5801 100V linear LED driver from Diodes Incorporated is priced at $0.11 USD each in 1k quantities. Further information is available at www.diodes.com [1]

Diodes, Inc.
972-385-6292
www.diodes.com [1]

Source URL (retrieved on *05/21/2013 - 6:56pm*):
http://www.ecnmag.com/product-releases/2012/07/linear-led-driver-allows-simplification-auto-interiors-signage-lighting-circuits?qt-recent_content=0

Links:
[1] http://www.diodes.com